

Dimitrievska, Vera; Tomovska Misoska, Ana

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## Factors associated with patients' satisfaction in the health care system in North Macedonia

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## FACTORS ASSOCIATED WITH PATIENTS' SATISFACTION IN THE HEALTH CARE SYSTEM IN NORTH MACEDONIA

Vera Dimitrievska<sup>1</sup>, Ana Tomovska Misoska<sup>2</sup>

<sup>1</sup>PhD candidate, School of Business Economics and Management,  
University American College Skopje, R.N. Macedonia

<sup>2</sup>University American College Skopje, R.N. Macedonia

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**ABSTRACT:** This paper examines the factors and approaches in patients' satisfaction in the health care delivery system in N. Macedonia. The study aims to assess how key service quality dimensions relate to an important measure of performance in patient satisfaction and to find the elements that are valued by patients and the reasons behind patient satisfaction or dissatisfaction. The main tool used in this study was the instrument developed for measuring service quality named as SERVQUAL. The overall patient-satisfaction item was skewed towards low patient satisfaction in the health care system: 2.43 on a scale of 1-3. The strongest predictors were experienced health-care professionals ( $\beta = -0.32$ ), expected diagnosis ( $\beta = 0.14$ ) and modern equipment ( $\beta = -0.130$ ). The regression model explained 62% of the variance in overall patient satisfaction. The findings of the study are of great importance for public hospital administrators in N. Macedonia with respect to the outpatient aspects of service quality. The results of the study will serve for the strategic use of hospital sectors as an initial strategy for marketing healthcare, and expanding patient satisfaction. Other studies found that satisfaction can be influenced by different variables.

**KEYWORDS:** *patient satisfaction, factors, hospitals*

## INTRODUCTION

In the review study by Newsome and Wright (1999) about patient satisfaction, the satisfaction is a term that has been observed extensively, still, this topic gives insights mainly in the fields of psychology; marketing and consumer behaviour; sociology and healthcare management. According to Bitner and Hubbert (1994) the satisfaction is 'generally seen to be the broader concept and one that can be viewed either at the individual service encounter (transaction) level or at a more global level, encompassing all experiences with an organization' (p.75). However, patients' satisfaction, their perceptions and patient's involvement in all decision making process in modern health care and treatment became very important topic among medical care industry. This concept in the research literature is widely spread among scientists with a simply primary goal, to improve the quality of care within the medical organizations and also to satisfy the demands of the consumers/patients leading to its final goal to provide sustainability in the health care (Gill and White, 2009; Faezipour, et al., 2013; Velic and Stefanovska, 2014; Ofilli, 2015)

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The application of patient satisfaction in health care started in early nineties with the patients' rights movement described in the studies by (Williams, 1994; Gill and White, 2009) where the discourse about the relationship between the patient satisfaction and health care delivery versus the so called standard of technical care was established particularly in western countries. In the study by Gok (2013) on patient satisfaction in developing countries describes that the research is weak as many of those countries are still under process of economic development and welfare. Yet, the process of patient satisfaction in developing countries derives relevant insights and an essential dynamics in the last decades. Similarly, the research by Andaleeb,(2001) states that the governments have made significant investments in hospital care to increase the access as a result of perceived quality of care by the patients themselves.

Quality problems are also pervasive in Balkan countries (Macedonia, Serbia and Bulgaria), the government investments and loans by the World Bank to health care like in Macedonia counts more than 20 mil USD since 1992 (Lazarevik and Kasapinov, 2015). In addition, private health care has also been encouraged since 2005, leading to establishment of several private hospitals and primary health care organizations in the country.

Healthcare service performance depends on personal factors of the healthcare service provider and the patient but in

the same time on the factors related to the healthcare environment and further. Mosadeghrad (2014) in his study, argues about the main factors in health care quality and patient satisfaction such as individual, organizational, and environmental factors. Those factors make an influence to a caregiver's job satisfaction and consequently an obligation in providing high-quality services. Individual factors include age, personality, education, abilities, and experience. Organizational factors include management style, working conditions, and relationships with co-workers. Environmental factors consist of economic and social influences. Furthermore, customer related factors such as socio-demographic variables, attitude, and cooperation influence the quality of care provided. The provider's subjective attributes, including the priority they give to care, would have a regulating influence on the delivery of care. A relationship between employee satisfactions, quality of care, and patient satisfaction was found in the study.

A Malaysian study by Kashi et al. (2016) found that patient satisfaction relates to marketing outcomes of customer satisfaction and loyalty. The findings reveal a positive impact of customer experience perceptions on marketing outcomes such as: customer satisfaction, customer loyalty, and positive word of mouth. The study used a new tool named - service experience quality (EXQ). The EXQ dimensions - moments of truth, peace of mind, outcome focus, and product experience all are validated with an average. In addition, Gill et al. (2011) stated that customers/patients value brand of the healthcare service provider which comprise of items such as safety, flexibility, and ease of service provision - as highlighted in conducted studies in the healthcare.

The research objectives of this study are multifold. First, we would like to measure levels of patient satisfaction with aspects

of the health service encounter in the in-patient settings of the health delivery system. Secondly, to assess how key service quality dimensions relate to an important measure of performance patient satisfaction and to find the elements that are valued by patients and the reasons behind patient satisfaction or dissatisfaction. Thirdly, to assess the medical services and the treatments in shaping satisfaction in the health care delivery system. Finally, to reach conclusions about the strategic changes that are necessary in hospital health care delivery systems needed to improve patient satisfaction, whether they pertain to employees, internal promotion, or patient services.

## **THEORETICAL BACKGROUND**

The literature on patient satisfaction is very extensive and has identified five key theories about patient satisfaction in the health care studies. These theories conceptualized in two models using either an expectancy-value model or a congruency model (Fox & Storms, 1981; Strasser, Aharony, & Greenberger, 1993; Copeland & Scholle, 2001).

First theoretical attempt toward patient satisfaction research was embarked by Linder-Pelz (1982). In the work by Linder-Pelz, which was further criticized by Pascoe (1983), it is argued that satisfaction is mediated by patients' beliefs, experiences and values and their expectations of the health care performance. For this model, second important finding is that patient's social network, friends or family member have an effect on expectations about satisfaction. However, her definition on patient satisfaction originated from Ajzen and Fishbein's (1991) Theory of reasoned action (TRA) and from job satisfaction research, where an attitude is general evaluation or feeling of something such an object being positive evaluated. In the same

year, Linder-Pelz has tested the Fishbein and Ajzen's theory that attitudes are constructed by the interaction of beliefs (expectations) and values regarding patient (attitude) satisfaction (expectations). Linder-Pelz found no correlation between general satisfaction factor and expectations value ratings. Consequently, many researchers have supported the Linder-Pelz model definition in satisfaction, whereas few scholars used it as a theoretical base for building next testing instruments, which were mostly, focused in measurement of values of patients not their expectations/satisfaction. Next remarkable shift in the theory foundation was noticed in consumer research. They are linked with theories of quality assurance and control applied in good controls sector in 1980s (Parasurman et al. 1985). The quality approach was applied in the health sector (e.g. Babakus and Mangod, 1992; Kerssens and van Yperen, 1996) and this approach considered the measurement of patient perspectives as method of an ongoing quality improvement instead of paying an attention to the research object itself stated by Ovretveit (1992). In that line was developed the SERVQUAL instrument by Parasuraman et al. (1985, 1988), which is constructed by the measures of consumer construction with service quality. This instrument developed by Parasurman et al. (1985) defines quality of services as "the quality that a consumer perceives in a service is a function of the magnitude and direction of the gap between expected service and perceived service" (p.42).

The research in patient satisfaction showed that the model elaborated by Fox and Storms (1981) about sociodemographic variables is with contradictory findings. This model is described as a congruency, which is focused on first instance on discrepancies that are occurred, which might help in explaining which practice arrangements best satisfy particular subgroups. Fox and Storms

used two sets of variables like, orientation towards care and conditions of care. Orientation of care means what people want and what people expect from the health care encounter as people have different perceptions and beliefs about diseases and how they respond to illness. Whereas, conditions of care include various factors of care (i.e. metaphysics, chiropractic, allopathic and etc.), situation of care (cost, speed, location) and the end outcomes of care. For instance, if orientations and conditions are congruent, people are satisfied, if not, they are not satisfied. The exploratory study by Fox and Storms concluded that age and sex as variables is the strongest variables as predictors in health care satisfaction.

The next theory expectancy-value model of Ware et al. (1983) argues that patient satisfaction levels are determined by patients' personal preferences and expectation as far as health care is concerned. Together with other scholars Ware developed a paradigm for monitoring the results of medical care named as Medical Outcome Study consisted of 3 parts: 1. Structural characteristics of medical care, such as system, provider and patients characteristics; 2. Process of care, which are included variables related to technical and interpersonal forms; and outcome variables, such as clinical end points, functional status, well-being, and care satisfaction. MOS evaluations are concentrated on outcome measures of disease-specific clinical results usually measured by the clinicians, then, generic measures of functional status, well-being and satisfaction from patients' perspectives.

Manifold models theory of Fitzpatrick and Hopkins (1983) argued that patients' expectations in health care are influenced by their social environment, primarily, which later could have personal reflection on their satisfaction about health care services. The view of



satisfaction as an attitude has been evident and supported within health care more often occurs in younger age groups or among middle-class respondents. The empirical studies are run in neurological outpatient settings and still their models provide only partial and not very clear insights about patient's satisfactions. However, this model enables more sensitive assessment of health care from patient's perspective.

In order to understand patient satisfaction many scholars used Donabedian (1980) theory model. This theory is characterized by its multiple model comprised of structure, process and outcomes (SPO). In this trilogy the interpersonal aspect of care has a key role in expression of the satisfaction or dissatisfaction by the patients. A patient to be satisfied in every sense within health care delivery he/she should have a positive judgment about the quality of care delivered especially as it is related to interpersonal part of health care. Accepting the Donabedian quality assurance model Donabedian (1980, 1988) still important segments of care in any health care context can be classified if they are linked with the structure (facilities, personnel), process (technical process, interpersonal process) or outcome process (somatic, psychosocial, and financial) of care. Apart of all these dimensions the overall measure of satisfaction is usually exploited from patient and consumer research studies mostly using Likert Scale questions. The relationships between structure, process and outcome are linear. Later, Donabedian (2005) explains that the structure influences the process of care so that its quality is diminished or enhanced, and both in turn influence the effectiveness of care on patient health status and functioning.

**Structure** describes the environment in which care is delivered, including hospital buildings, staff, financing, equip-

ment, and human resources, as well as organizational characteristics such as staff training and payment methods. These factors control how service providers and clients in healthcare service delivery act and measures of the average quality of care within a facility or system. The structure of an institution is often easy to observe and measure and it may be the upstream cause of problems identified in process.

**Process** refers to the transactions between clients and service providers throughout the delivery of healthcare. These transactions most often include diagnosis, treatment, preventive care and patient education but may be expanded to include actions taken by the clients or their families. According to Donabedian, measuring process is nearly equivalent to the measurement of quality of care because process contains all acts of service delivery. Information about process can be obtained from medical records, interview with clients and service providers, or direct observations of healthcare visits.

**Outcome** refers to the effects of healthcare on the health status of clients and population. These include the changes to health status, behavior of both service providers and clients, or knowledge as well as client satisfaction health related quality of life. Most times outcomes are seen as the most important indicators of quality because improving clients' health status is the primary goal of healthcare. However, having to accurately measure outcomes that can be attributed exclusively to healthcare is difficult. Drawing connections between process and outcomes often requires large sample populations, adjustment by case mix, and long-term follow ups as outcomes may take considerable time to become observable.

Based on this research model done in this field, the dependent variable is overall patient satisfaction in health care services and is considered as an outcome

from the received service as an indicator of quality. Patient satisfaction was measured based on: the extent to which patient satisfaction is observed and compared with the quality of services and the importance of non-medical services in shaping the satisfaction. In order to address research objectives, the research model outlines 5 quality dimensions: tangibility, responsiveness, empathy, assurance and reliability and investigates how each of those characteristics affect on patient satisfaction.

## **METHODOLOGY**

To achieve the research objectives of the study, a positivism paradigm was applied—focusing more narrowly on a quantitative research. The purpose is to measure, control, predict, construct laws and assign causality Cohen et al. (1992). The choice of paradigm is based on the assumption that there are numerous of healthcare research studies already available where this study empirically enhances the SERVQUAL scale possibilities by replicating it to Macedonian healthcare context. The study is cross-sectional survey in nature and maps perceptions of Macedonian healthcare customers regarding quality of experience offered by private healthcare. The questionnaire was employed to collect data and we adopted the questionnaire from the Health Grouper NGO published in leading journals (Lazarevik and Kasapinov, 2015). However, besides using the original sections of the instrument, several additional sections were deployed to the instrument to enable gathering data that will portray the situation in Macedonia. These new sections served to understand in-depth the patients views and perceptions that can influence to their satisfaction in health care services.

The questionnaires consisted of 6 sections. Section 1 aimed at gaining demographic

data such as age, level of education, income and gender. This information could assist the researcher when interpreting the results, for example, whether subjects lack of experience in patients satisfaction because they were uneducated, or whether they did not have good communication with the health care professionals. Section 2 aimed at determining the knowledge and views of patients treatment, whether is private or state hospital. Questions assessing knowledge about communication aspects with health care professionals, treatment efficacy were included. Instruction guidelines were attached to the questionnaires to guide the subjects as to whether to circle or tick the chosen response. Section 3 was focused on private hospitals, reason why patients chose this kind of hospitals and how often those hospitals are visited. Section 4 aimed at referral issue and from the referral comes from mostly. Section 5 aimed at out-of-pocket payment and their experiences about. Section 6 was determined to satisfaction part using a Likert type scale, the scale comprised 17 items to measure the dimension of satisfaction like loyalty, waiting time, hygiene, interaction with health care professionals, medical equipment, quality of services, availability of the doctors etc. The variables in the study were measured using interval rating scale which ranged from 1 = strong disagree to 5 = strongly agree.

Keeping abreast with previously conducted studies in healthcare settings, a sample size of 500 respondents was envisioned. However, data collection was not possible from such a large number of people due to several operational difficulties. These include people who said they are unable to understand the questionnaire as well as people who straight away denied taking part in the study. We never intended forcing any potential respondent to convert him or her into an actual respondent. This is why we distributed online the questionnaires' and

based on their willingness to partake the study, they were asked to fill in the questionnaire. However, among the 500 people approached, 435 people filled in the questionnaire.

### Research hypotheses

Given the scarcity of literature on the customer experience creation in health-care settings, the following hypotheses have been proposed:

H1: Satisfaction is higher (lower) between specific hospital services and overall health care satisfaction perceptions.

H2. Quality of communications with health care professionals (doctors and nurses) during the service interaction is crucial to patient satisfaction, in both in-patient and outpatient settings.

H3. Patients refer to tangible or peripheral elements like waiting time, quality of food, and staff courtesy rather than clinical “core” competencies as the determinants of their satisfaction or dissatisfaction.

These hypotheses are consistent with the conceptual model concerning the correlation of hospital strategy to advances in technology, access to care and communication skills versus the correlation of strategies to hospital health care systems as a whole.

### ANALYSIS OF DATA

Descriptive statistics were used to describe the demographic characteristics of the sample. The primary exploratory analysis was employed for the criterion variable to compare the overall patients' satisfaction to the question: “Overall, how satisfied are you with the health care system in North Macedonia?” (Very Good, Good, Poor'). Logistic regression models were created using overall satisfaction as the dependent variable under-

lying with such as normality, linearity, homoscedasticity and multi-collinearity were tested. The hypothesized model was employed using a SPSS program version.

### Sample profile

Amongst the respondents, 19 percent were males and 78 percent were females. About 13 percent were aged between 18–25 years; 31 percent aged between 26 to 35 years; 32 percent aged between 36 to 45 years; and 14 percent aged between 46 to 55 years. The sample comprised a good mixture of different generational cohorts and can be assumed as a representative sample of the population. The complete demographic profile of the participants is given in Table 1.

**Table 1.**  
*Demographic profile of participants*

<b>Gender</b>	<b>No</b>	<b>%</b>
Female	360	78.8
Male	91	19.9
<b>Age</b>		
Under 18		
18–25 years old	60	13.1
26–35 years old	146	31.9
36–45 years old	152	33.2
46–55 years old	66	14.4
56–years and above	25	5.9
<b>Education</b>		
High education/Faculty	278	60.8
Master degree	79	17.2
Secondary education	91	19.9
Other	1	0.2
<b>Occupation</b>		
Employed in private sector	215	47
Employed in state sector	114	24.9
Employed in private and state sector as a second job	8	1.7
Not employed	91	19.9
Other	8	1.7



## RESULTS

### Satisfaction

The questionnaire was answered by 453 patients. The overall patient-satisfaction item was skewed towards low patient satisfaction towards health care system: 2.43 on a scale of 1-3, where 1 represents the best score, 2 represents not satisfied and 3 score represents to certain extent satisfied. (table 2). Of those who responded, 53.3% were not satisfied with the health care systems, to a very large extent satisfied, only 1.5% and 44.4% to some extent.

A large proportion of respondents reported that quality of health care services is available to some extent 62%, while 18% reported that quality of health care services is good, and 19% reported that quality of health care services is not available.

**Table 2.**

*Univariate results: overall patient satisfaction from the health care system and quality of health care in North Macedonia.*

Patient Satisfaction*	N	%	Mean (SD)
Yes	7	2	2.43 (0.52)
No	242	53	
To some extent	204	45	
<b>Quality of services</b>			<b>2.0 (0.61)</b>
Yes	81	18	
To some extent	283	62	
No	84	19	

Scored on a scale of 1-3, where 1 represents the best score (item).

The correlations between overall patient satisfaction and availability of quality of services are with inverse (negative) relationship, while one of the variables grows, the other decreases. There is a weak asso-

ciation between the two variables, whereas the p values is significant of  $p = 0$ .

Ordinary multivariate regression analysis revealed that 3 variables were associated with overall low patient satisfaction or dissatisfaction (table 3): The strongest predictors were experienced healthcare professionals ( $\beta = -0.32$ ), expected diagnosis ( $\beta = 0.14$ ) and modern equipment ( $\beta = -0.130$ ). The regression model explained 62% of the variance in overall patient satisfaction. Therefore, the Hypothesis 1 is accepted, where the dependent variable of overall low patient satisfaction was explained by the independent variables and the overall model can statistically significant predict the outcome variable ( $F=1.809$ ;  $p<0.28$ ). Hypothesis 2 was tested using regression analysis. As it can be seen from Table 3 the analysis showed that the quality of communication was non-significant on patient satisfaction ( $\beta = -0.043$ ,  $p>0.576$ ). Finally, Hypothesis 3 was performed using regression analysis and the analysis showed that tangible or peripheral elements like waiting time, quality of food, and staff courtesy rather than clinical “core” competencies were found to be non-significant.

## CONCLUSION

The main aim of the study was to identify service quality factors that are important to patients and to examine their links to patient satisfaction in the Macedonian context. The analysis showed that overall patient-satisfaction was reported as a low or dissatisfaction from the health care system in Macedonia. The main study hypotheses were supported. First, the study respondents reported that quality of health care services is available to some extent and it showed an indirect correlation with the overall patient satisfaction. Second, three of independent variables were associated with overall low patient satisfaction in the regression

analysis, giving support to one hypothesis. Following Donabedian's model overall patient satisfaction was defined as a patient satisfaction outcome measure in this study, while structures and processes were represented by patient perceptions and experiences. A relationship was established with three predictors and overall patient satisfaction. The regression model in the present study explained almost 62% of the variation in overall patient satisfaction. The test of reliability of the patient-satisfaction item was 0.93. These findings of the study are in line with other similar studies in the Balkan regions like in Bulgaria, Serbia and Kosovo (Velic and Stefanovska, 2014; Lazarevik and Kasapinov, 2015). The findings confirm the result from the other study by Andaleeb (2001) on developing countries

where the professional skills and competence are linked to patient satisfaction. The findings of the study revealed that patients are more dissatisfied with overall organization of the health care facilities and general health care system that result in diagnosis expectations and low competence of the health care professionals. This study provides knowledge and contribution to health care literature with a convenient sampling which can contribute to expanding patient satisfaction in the health care system in North Macedonia. The practical contribution of the current study is patient satisfaction with health care services, that how to provide best services to improve patient satisfaction. Therefore, providing the best health services plays a main role in boosting patient satisfaction.

**Table 3.**

*Multivariate linear regression models: associations between independent variables and overall patient satisfaction*

	$\beta$	p
Checkup possibility (scale)	0.001	0.981
Time waiting in healthcare facilities to meet the doctor (scale)	-0.065	0.333
Administrative procedures (scale)	-0.042	0.538
Hygiene (scale)	-0.028	0.679
Scheduled appointment (scale)	0.022	0.753
Experienced healthcare professionals (scale)	0.150	0.032
Availability of specialist/doctors (scale)	-0.024	0.723
Communication with health care staff (scale)	-0.043	0.576
Expected diagnosis (scale)	0.180	0.014
Modern equipment (scale)	-0.130	0.047
Friendly attitude from the health care staff (scale)	-0.050	0.480
Laboratory services (scale)	0.001	0.986
Availability of drugs (scale)	0.040	0.512
Waiting rooms (scale)	-0.081	0.272
Quality of hospitals wards (scale)	0.024	0.772
Additional premises (parking, playing room, cafes) (scale)	0.026	0.728

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